

SILICON CARBIDE SCHOTTKY DIODE
REVERSE VOLTAGE – 650 Volts
FORWARD CURRENT – 10 Amperes

FEATURES

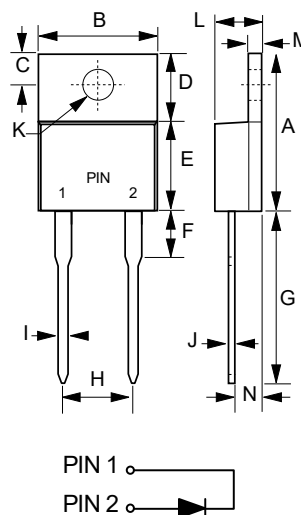
- Positive temperature coefficient for safe operation and easy of paralleling
- 175°C maximum operating junction temperature
- Essentially no reverse or forward recovery
- Extremely fast switching not dependent on temperature
- Qualification is according to AEC-Q101 Rev_D

APPLICATION

- Power converters
- Switching-mode power supplies
- Power Factor correction modules

MECHANICAL DATA

- Case: JEDEC TO-220AC
- Case Material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl.) "Halogen-free".
- Lead free finish, RoHS compliant
- Weight: 1.894 grams (Approximate)
- Marking code: LSC10065W

TO-220AC


TO-220AC		
DIM	MIN	MAX
A	14.40	15.20
B	9.65	10.67
C	2.54	3.43
D	5.84	6.86
E	8.26	9.28
F	--	4.2
G	12.70	14.73
H	4.83	5.33
I	0.51	1.14
J	0.30	0.64
K	3.53 Ø	4.09 Ø
L	3.56	4.83
M	1.14	1.40
N	2.03	2.92

All dimension in millimeter

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	650	V
Maximum DC blocking voltage	V_{DC}	650	V
Maximum Average rectified output current	$I_{(AV)}$	10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	I_{FSM}	60	A
Single Pulse Avalanche Energy	EAS	84	mJ
Operating junction and Storage Temperature range	T_J, T_{STG}	-55 ~ +175	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS		SYMBOL	TYP	MAX	UNIT
Forward voltage (Note1)	$I_F=10A$	$T_J=25^{\circ}C$ $T_J=175^{\circ}C$	V_F	-- 1.92	1.70 2.25	V
Leakage current	$V_R=650V$	$T_J=25^{\circ}C$ $T_J=175^{\circ}C$	I_R	-- 25.0	250 800	uA
Typical junction capacitance (Note 2)			C_J	330		pF

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	UNIT
Total Capacitive Charge	$I_F=10A, V_R=400V, di/dt=250A/uS,$	Q_C	23	nC

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 3,4)	R_{thJC}	2	°C/W
	R_{thJL}	2	

Note :

- (1) 300us pulse width, 2% duty cycle.
- (2) Measured at 1.0MHz and applied voltage of 1.0V DC.
- (3) Thermal resistance test performed in accordance with JESD-51.
- (4) The unit mounted on copper heatsink 50mm x 50mm x 1.6mm

REV-5, Aug-2019, KTGA34

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RATING AND CHARACTERISTIC CURVES

LSC10065W



FIG.1 FORWARD CURRENT DERATING CURVE

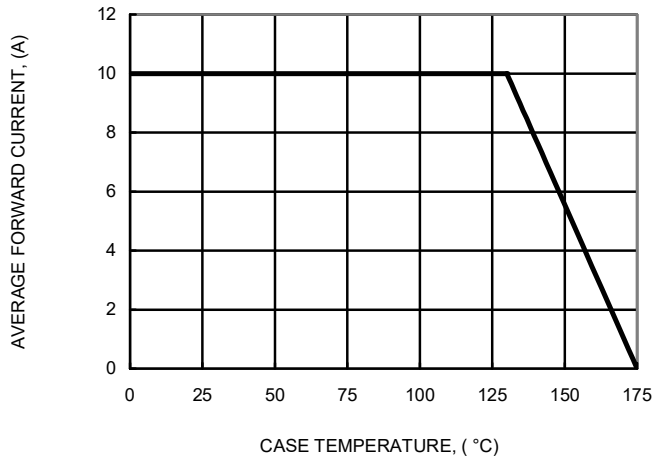


FIG.2 NON-REPETITIVE PEAK SURGE FORWARD CURRENT

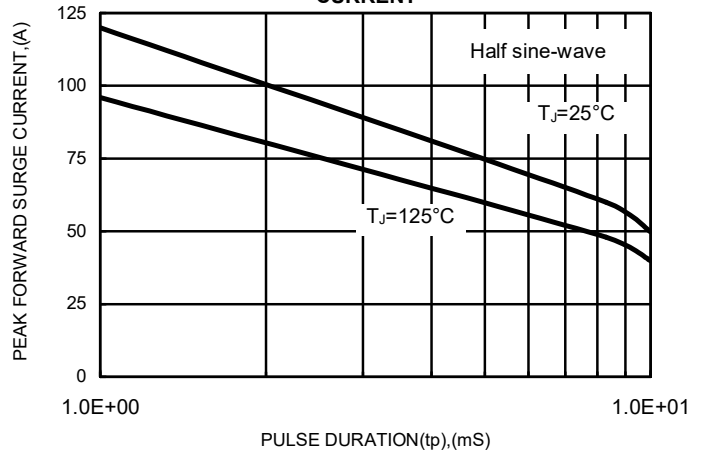


FIG.3 TYPICAL FORWARD CHARACTERISTICS

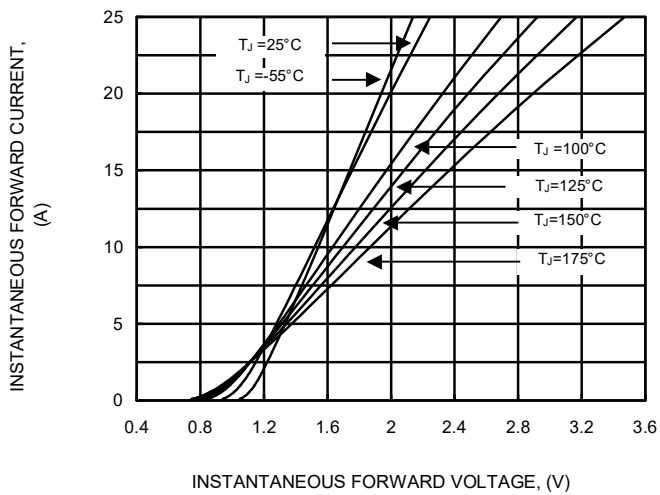


FIG.4 TYPICAL JUNCTION CAPACITANCE

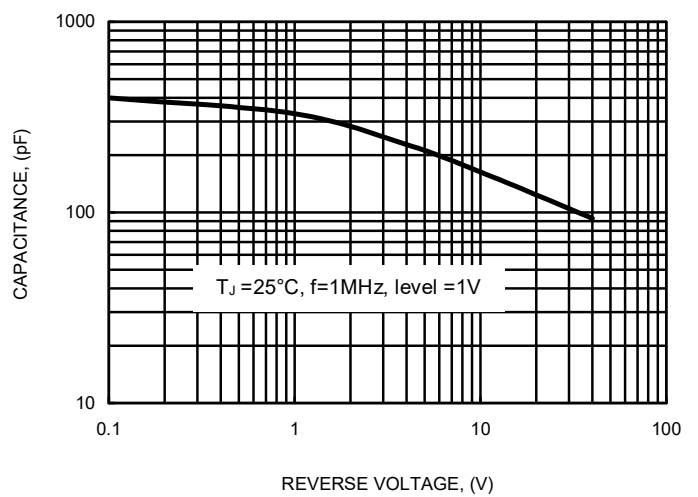


FIG.5 TYPICAL REVERSE CHARACTERISTICS

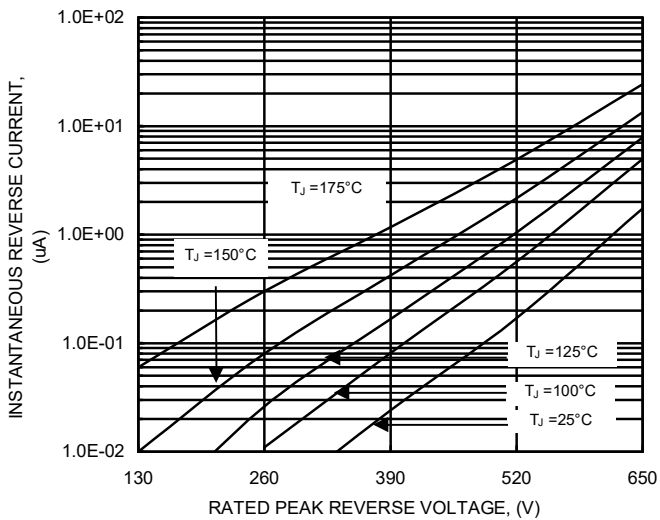
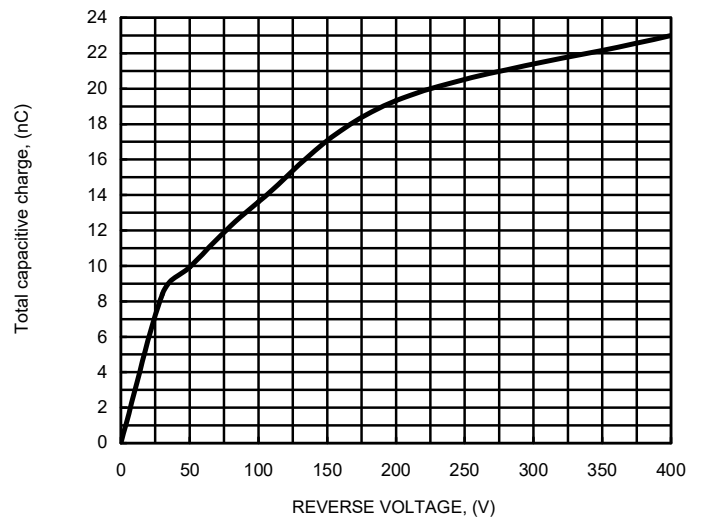


FIG.6 TYPICAL CAPACITIVE CHARGES

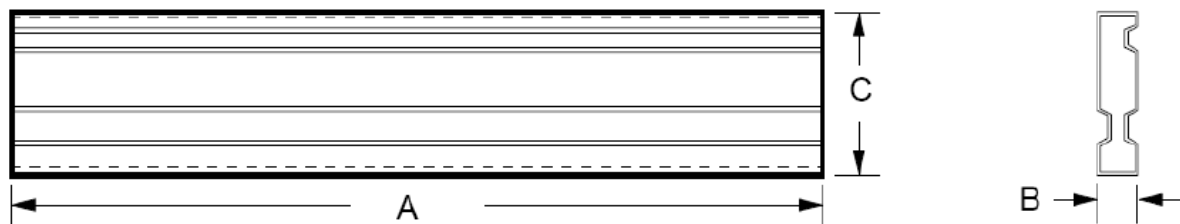


PACKAGING INFORMATION
LSC10065W

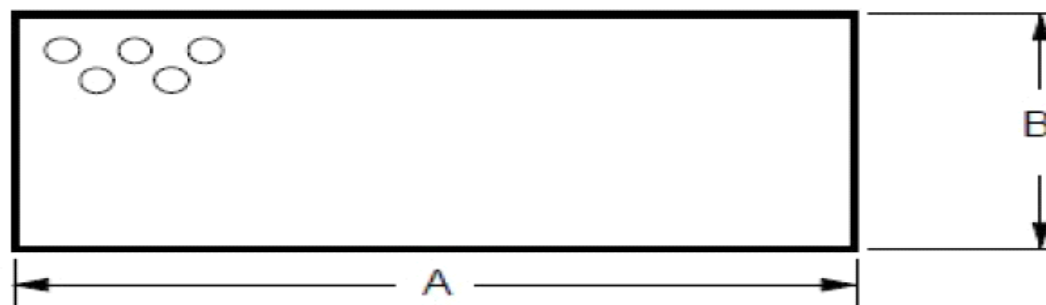


Packaging Information:

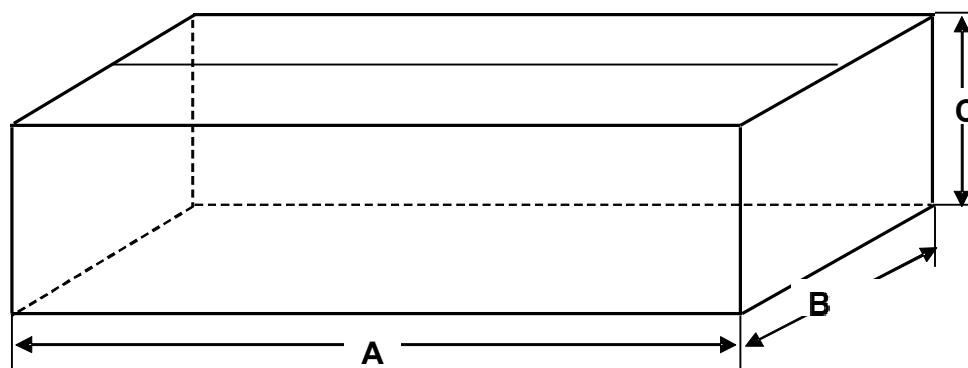
1. TUBE

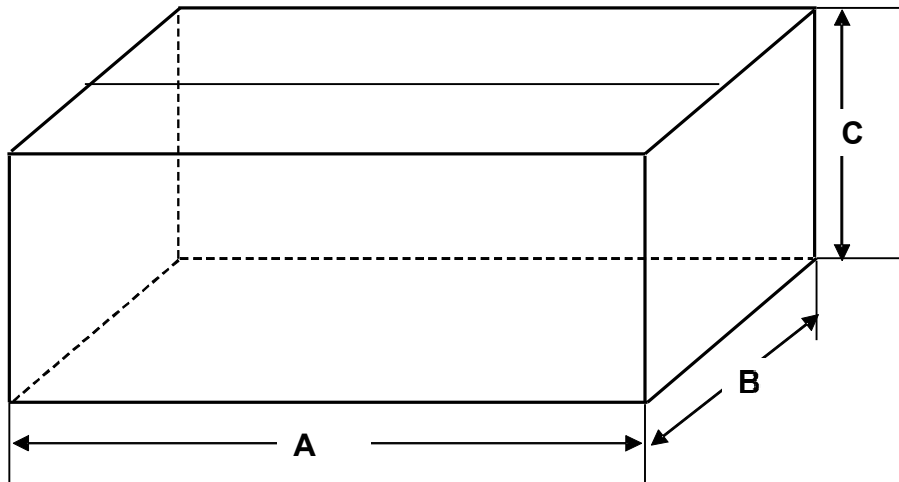


2. AIR BAG



3. INNERBOX



PACKAGING INFORMATION
LSC10065W**Packaging Information:****4. CARTON****Unit:mm**

P/N	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"	Q'ty/per	REMARK
TUBE	536	5.6	31.8	50	/
AIR BAG	800	550	/	/	/
INNERBOX	555	165	105	2000	40TUBE
CARTON	575	179	225	4K	2 INNER BOX

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